

SPECIFICATION AMENDMENTS:

Please replace the paragraphs starting on page 7, line 18 through page 10, line 16 with the following amended paragraphs:

--The semiconductor device 10 of present invention is what is called an area package having terminals arrayed like a lattice, for example, BGA or CSP. And, ~~this~~ The semiconductor device 10 is installed on the surface of a mother board comprising epoxy resin material including glass fiber by the method called solder screen. On ~~said~~ the mother board, signal lines for sending and receiving signal for wireless communication are printed. And, ~~these~~ The signal lines are connected with an antenna terminal 15 comprising an outside signal terminal provided to the semiconductor device 10 mentioned later.

The semiconductor device 10 comprises an integrated circuit. And, ~~it~~ It further comprises a pellet 12 having plural electrodes 11 to input and output signals of the integrated circuit. Further, it comprises plural post terminals 13 in forms of columns to install the semiconductor device 10 on the mother board and to input and output various signals. Here, a top end of the post terminals 13 and the electrodes 11 are electrically connected with wires 14 for bonding.

Further, the semiconductor device 10 of the present invention comprises an antenna terminal 15 acting as a kind of outside signal terminal, which is connected to a signal line to send and receive a signal to the antenna. And, ~~said~~ The pellet 12 has an antenna electrode 16 connected with the antenna terminal 15. Besides, the semiconductor device 10 comprises a ground terminal 17 in the form of a

square bracket, which surrounds the antenna terminal 15. And, said The pellet 12 has plural ground electrodes 18 connected with the ground terminal 17. These elements of the semiconductor device 10 are sealed in a resin portion 19.

In the base of resin portion 19, as shown in Fig. 2, a buffer layer 20 formed with resin material including glass fiber same as said mother board, is provided. Here, Fig. 2 shows a sectional view of the semiconductor device 10 at the position designated by the line A-A'.

The buffer layer 20 is formed in a prescribed thickness and width with its base coinciding with bases of the terminals 13, 15 and 17.

At the base of buffer layer 20, bottom end surfaces of terminals 13, 15 and 17 appear. And, formed there are connecting portions 21, comprising solders in the forms of balls etc. On the other hand, at the top end of terminals 13, 15 and 17; 17, gilded portions 22 are formed. And, the bottom surface of pellet 12 and top ends of terminals 13 in the central portion of Fig.2 are bound with binding material 23.

The buffer layer 20 is formed with resin material including glass fiber same as the mother board, as mentioned above. Therefore, the buffer layer 20 expands or shrinks according as the board expands or shrinks. By this, the connecting portion 21 formed at the bottom end surfaces of said the terminals 13, 15 and 17; 17, does not peel off from these bottom end surfaces. The reason is that the occurrence of strain at weak portions of binding interface between the bottom end

surfaces of said-the terminals 13, 15 and 17;17 and the connecting portion 24;21 is prevented.

Next, the semiconductor device 10 of the present invention is described referring to Fig. 3 showing the semiconductor device 10 at its bottom surface.

The connecting portions 21 mentioned above are arrayed with equal intervals at the bottom surface of the buffer layer 20. That is, post terminals 13 provided with connecting portions 21 are arrayed with equal intervals.

The antenna terminal 15 is positioned at the center of the right end portion of the semiconductor device 10 in the drawings. And, the periphery of antenna terminal 15 is surrounded with the bracket shaped ground terminal 17. At the bottom surfaces of antenna terminal 15 and ground terminal 17 of Fig.3, connecting portions 21 are formed as well, though not clearly shown in Fig. 3. These can be seen more clearly in Fig. 11 or 12.

When said-the semiconductor device 10 is installed on said-the mother board, the ground terminal 17 of this semiconductor device 10 is connected to the ground terminal of said-the mother board. Therefore, the charge on the antenna terminal 15 is attracted to the ground terminal 17, because the electric potential of this is lower than that of the antenna terminal 15, which is surrounded with the ground terminal 17. According to this, electromagnetic wave in electromagnetic field is attracted to the ground terminal 17. This attracted electromagnetic wave attracted-is generally a high frequency wave, that is-is, noise. This kind of high frequency wave (noise) is known to invite hindrance of hinder operation. To avoid

this, noise included in the outside signal is removed. Here, as mentioned above, this is performed by attracting said-the noise to said-the ground terminal 17 surrounding at least half of the periphery of the antenna terminal 15; from-15 from the antenna terminal 15, that is, the outside signal terminal, which receives the outside signal including noise.

As for the means for removal of the noise mentioned above, it is considered as a-an equivalent of noise removing circuit comprising coil and capacitor known before this invention. Therefore, according to the characteristic of noise, that is, frequency band-band, the inductance of equivalent coil and the capacitance of equivalent capacitor are decided. And, for example, a sectional area of the antenna terminal, a sectional area of the ground terminal, a distance between the antenna terminal and ground terminal, and a kind of material of the resin portion 19 are adequately selected.

As mentioned above, according to the semiconductor device 10 of the present invention, noise included in the signal line connected with the antenna can be removed, because the antenna terminal 15 is surrounded with the ground terminal 17 at its periphery.--

Please replace the paragraphs starting on page 12, line 23 through page 13, line 8 with the following amended paragraphs:

--After, After removing the plate material by polishing, as shown in Fig. 11, at the end faces of terminals 13, terminals 13, 15 and 17 formed are connecting portions 24-21 such as solder balls or surface layers. When connecting portions 24-21 are formed, the oxide films at the end faces of terminals 13, terminals 13, 15 and 17 are already removed, because the end faces of terminals 13, terminals 13, 15 and 17 have already been polished with a grinder 26.

After forming connecting portions 24-21, as shown in the sectional view of Fig. 12, the resin body is cut into a prescribed size of pieces with using a circular saw 27 of high revolution speed. Then, each semiconductor device 10 is formed. In this occasion, as shown in the plan view of Fig. 13, at the bottom surface of resin body, exposed are the end faces of post terminal 13, antenna terminal 15 and ground terminal 17. As is apparent in Fig. 13, ground terminal 17 has a peculiar form discriminated from the other terminals 15 and 13.--